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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,071	09/30/2003	Hitoshi Yoshida	16869G-088100US	8085

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EXAMINER	
FIGUEROA, NATALIA	

ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	10/677,071	YOSHIDA ET AL.	
	Examiner	Art Unit	
	Natalia Figueroa	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2005*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,8 and 14-19* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1,5,8 and 14* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☒ All b)☐ Some * c)☐ None of:
1.☒ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 5, 8 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii (USPN 6,781,786) in view of Yamakoshi et al (USPN 5,600,501), hereinafter Yamakoshi.

RE claim 1, Ishii discloses a method for compensating timing to start data writing in a magnetic disk device having one or more magnetic heads (abstract and figs. 1-7), each magnetic head having a write head and a read head with a head gap distance therebetween (figs. 24A-24B and col. 6, lines 26-33), the method comprising measuring the head gap distance in each of the one or more magnetic heads by reading the predetermined unique pattern written onto the area (col. 10, lines 23-36); and compensating the timing to start the data writing onto the user data area by control of a dedicated gap, wherein the dedicated gap compensating circuit changes the timing based on a time gap that corresponds to said measured head gap distance in each of the one or more magnetic heads (col. 10, lines 43-67).

Ishii fails to explicitly teach writing a predetermined unique pattern generated by a dedicated pattern generating circuit onto an area on a magnetic disk other than a user data area by the one or more magnetic heads. However, Yamakoshi discloses such on (fig.6 and col. 6, lines 41-43). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the device as disclosed by Ishii with the above teachings from Yamakoshi, the motivation being in order to produce a pattern hence being able to measure the gap difference between the read and the write head.

RE claim 5, Ishii discloses a magnetic disk device having a rotatable magnetic disk and a magnetic head the magnetic head having separate write and read heads with a head gap distance therebetween, a method of establishing timing of write operations (abstract, fig. 23, figs. 24A-24B and col. 6, lines 26-33), the method comprising at a known first time interval after the read head detects a reference pattern on the magnetic disk, (col. 10, lines 23-34 and 43-67); using the read head to detect the reference pattern and the predetermined pattern written onto the area (col. 10, lines 23-36); determining a second time interval between detecting the reference pattern and detecting the predetermined pattern; determining information relating to the head gap difference based at least in part on the first and second time intervals (col. 11, lines 1-51); storing said information relating to the head gap difference for use in establishing the timing of subsequent write operations (col. 12, lines 23-27 and lines 64-67); and compensating the timing to start the write operation onto the user data area by control of a dedicated gap compensating circuit, wherein the dedicated gap compensating circuit changes the timing based on the information relating to the head gap stored (col. 10, lines 43-67).

Ishii fails to explicitly teach using the write head to write an identifiable predetermined pattern generated by a dedicated pattern generating circuit onto an area other than the user data area of the magnetic disk. However, Yamakoshi discloses such on (fig.6 and col. 6, lines 41-43). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the device as disclosed by Ishii with the above teachings from Yamakoshi, the motivation being in order to produce a pattern hence being able to measure the gap difference between the read and the write head.

RE claim 8, Ishii further discloses that said determining the second time interval comprises establishing a read window having a duration substantially equal to the duration of the predetermined pattern (col. 11, lines 1-34); reading the magnetic disk during the window interval while preventing reading during time intervals before and after the window interval; determining whether the predetermined pattern is within the window (col. 11, lines 1-57); and if not moving the window; repeating reading and determining until the predetermined pattern is found in the window, and using the window position at which the predetermined pattern is found in the window to determine the second time interval (col. 11, lines 29-57).

RE claim 14, Ishii discloses a magnetic disk device having a magnetic head with a write head and a read head, the magnetic head being characterized by a head gap distance between the write head and the read head (abstract, fig. 23, figs. 24A-24B and col. 6, lines 26-33), the magnetic disk device comprising measurement means for measuring the head gap distance by reading the predetermined unique pattern written onto the area with the magnetic head (col. 10, lines 23-36); memory means for storing a time gap that corresponds to the head gap distance measured by said measuring means (col. 12, lines 64-67 and col. 13 , lines 10-16); and head gap compensation means for compensating timing to start writing onto the user data area and changing the timing based on said time gap that is read out from said memory means (col. 10, lines 43-67 and col. 13 , lines 34-59).

Ishii fails to explicitly teach means for writing a predetermined unique pattern generated by a dedicated pattern generating circuit onto an area on a magnetic disk other than a user data area by the one or more magnetic heads. However, Yamakoshi discloses such on (fig.6 and col. 6, lines 41-43). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the device as disclosed by Ishii with the above teachings from Yamakoshi, the motivation being in order to produce a pattern hence being able to measure the gap difference between the read and the write head.

RE claim 15, Ishii discloses a magnetic disk device comprising a magnetic disk (abstract and fig. 23); a write head for writing data on said magnetic (fig. 23, figs. 24A-24B and col. 6, lines 26-33); a write circuit for modulating the data and supplying a write current to said write head (col. 9, lines 25-41); a read head for reading the data from said magnetic disk (fig. 23, figs. 24A-24B and col. 6, lines 26-33); a read circuit for amplifying and demodulating a read signal provided by said read head (col. 9, lines 25-41); a gate generating circuit for generating a read gate and a write gate that determine timing to write and read the data (col. 8, lines 18-47); the unique pattern being used for measuring a head gap distance (or recording signal sent to IC, col. 7, lines 36-39 and lines 60-65); a gap measuring circuit configured to measure said head gap distance based on a signal acquired by writing and reading said pattern written onto the area (col.

10, lines 23-36); a memory for storing a time gap TG corresponding to said head gap distance, so measured (col. 12, lines 64-67 and col. 13 , lines 10-16); and a gap compensating circuit, coupled to said memory, configured to compensate the timing of writing data onto the user data, wherein the gap compensating circuit changes the timing based on said time gap TG stored in said memory (col. 10, lines 43-67 and col. 13 , lines 34-59).

Ishii fails to explicitly teach a pattern generating circuit configured to generate a unique pattern to be written onto an area on a magnetic disk other than a user data area by the write head. However, Yamakoshi discloses such on (fig.6 and col. 6, lines 41-43). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve the device as disclosed by Ishii with the above teachings from Yamakoshi, the motivation being in order to produce a pattern hence being able to measure the gap difference between the read and the write head.

RE claims 16-19, the combination of Ishii and Yamakoshi is relied upon for the same reasons of rejection as stated above. Ishii further discloses that preamble data is written before the predetermined unique pattern, and data which is different from the predetermined unique pattern is written after the predetermined unique pattern (col. 10, lines 51-54).

Response to Arguments

4. Applicant's arguments, see pages 6-8, filed 11 October 2005, with respect to the rejections of claims 1, 5, 8, and 14-19 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Ishii and Yamakoshi.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (571) 272-7554. The examiner can normally be reached on Monday - Thursday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NFM

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